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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,086	11/19/2003	Reade Clemens	EH-10546A(01-465A)	9418

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EXAMINER

NGUYEN, PHONG H

ART UNIT	PAPER NUMBER
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3724

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/718,086	Applicant(s) CLEMENS, READE	
	Examiner Phong H. Nguyen	Art Unit 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The drawing filed on 12/02/2005 is acknowledged and entered to the record.

Specification

2. The Specification is objected to under 37 CFR 1.71 for not clearly explaining the diamond mounting direction in paragraph [0019].

The Specification does not describe how the locations of the coordinates are defined so that one of ordinary skill in the art can make and use the same. That is, whether these coordinates are defined relatively to the shank axis or the diamond tip axis.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 1, 13 and 14, it is unclear whether Applicant claims atomic arrangement of atoms in the diamond tip 16 or the angle of the diamond tip 16 with

respect to the shank axis 24 or the angle of the outer surface of the diamond tip with respect to the diamond tip's axis or the diamond tip's base. There is insufficient information as to the specific intrinsic crystallographic direction and the angle to what it is. That is, it is not clear what the <17, 12, 24> direction represents.

It is not clear why mounting of any diamond tip to an indenting tool would not inherently meet the limitation of the direction of the diamond tip, since the Applicant's diamond tip is very similar to other diamond tips which both align with the axis of their shank and both have conical shape.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-6 and 8-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Anderson et al. (6,051,079), hereinafter Anderson.

Regarding claims 1 and 13, Anderson teaches a tool capable of being used as an indenting tool comprising a shank 10 and a diamond tip 12. See Fig. 3, col. 3, lines 29-54 and the Abstract.

To the extent explained by Applicant's specification, drawings, and claims, Anderson anticipates the limitation of the direction of the diamond tip. Since Anderson's diamond tip is similar to Applicant's diamond tip which has a conical shape and aligns

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with the shank axis and Applicant's diamond tip is considered "within 8 degrees of a <17, 12, 24> direction"; therefore, a conical tip being on the axis of a shank is considered "within 8 degrees of a <17, 12, 24>" direction.

Regarding claim 2, shank 10 is made of steel.

Regarding claims 3 and 4, see Fig. 3.

Regarding claims 5 and 6, since Anderson claims the diamond tip in general, Anderson anticipates narrower claims 5 and 6.

Regarding claim 8, see Fig. 1.

Regarding claims 9 and 10, since Applicant does not clearly define the shape of the diamond tip and the diamond tip in Figs. 1 and 2 of the Applicant's disclosure has the same shape of the diamond tip of Anderson; therefore, Anderson anticipates claims 9 and 10.

Regarding claim 11, see col. 3, lines 29-54 and the Abstract.

Regarding claim 12, see Fig. 1.

Regarding claim 14, Anderson teaches a method capable of making an indenting tool comprising the steps of:

- providing a shank 10 having an end;
- providing a diamond 12;
- positioning the diamond in a wear resistant position;
- securing the diamond to the end of the shank; and
- the positioning step comprising positioning the diamond a wear resistant

orientation of within 8 degrees of a <17, 12, 24> direction.

See Fig. 3.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson.

Anderson teaches the invention substantially as claimed but silence on whether the diamond is synthetic or natural. However, choosing a synthetic diamond or a natural diamond to manufacture a diamond tip is not patentably distinct over prior art since it involves cost analysis, the availability of natural diamond and synthetic diamond and market demand.

Response to Arguments

9. Applicant's arguments filed on 12/02/2005 have been fully considered.

Applicant's arguments with respect to the single crystal diamond and the included angle are persuasive. Thus, the objections to the Specification and the drawings with respect to the single crystal diamond and the include angle are withdrawn.

One portion of the objection to the Specification stand in this Office action since Applicant asserts that the coordinate of the direction is both defined relative to the shank and used to describe the atomic arrangement of atom. See page 4 of 9 of the reply.

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Applicant does not show how the coordinate of the shank and the atom can be related together.

Regarding applicant's arguments with respect to 35 USC 112, first paragraph, the Examiner clearly provided his doubts why one of ordinary skill in the art could not make or use the claimed invention in paragraph 5. Without a clear definition of the coordinate of the direction, how can one of ordinary skill in the art use the claimed invention? Would tilting the cutting tip 22 in Fig. 1 of the disclosure 8 degrees with respect to the shank axis 24 is what the Applicant claims? Or would the coordinate be a plane in a cubo-octohedron diamond or an octahedron diamond? If it is so, how is the plane defined in each case? And what surface of the diamond is attached to the shank?

Applicant has asserted with respect to the rejection under 35 USC 112, first paragraph, that the Examiner is not one of ordinary skill in the art. This does not respond to the rejection. A responsive reply to the rejection should be to define clearly the coordinate of the direction. Applicant does not provide that in his reply. In page 4 of 9 of the Applicant's reply, Applicant asserts the coordinate is defined relative to the shank axis and is the atomic arrangement of the atoms. See paragraphs 4 and 5. Does it mean that the tip of the diamond has a coordinate of $\langle 0, 0, 0 \rangle$ and the conical surface of the diamond has a coordinate of $\langle 17, 12, 24 \rangle$? Applicant is suggested to provide a 3-D drawing of a diamond and indicate clearly where the direction $\langle 17, 12, 24 \rangle$ is defined and what surface of the diamond is attached to the tool shank for better defining the claimed invention. Applicant may see patents cited in the IDS filed on 07/21/2004 for examples how a coordinate of a direction is defined.

Regarding Applicant's argument with respect to Anderson, since Applicant does not clearly defined what "within 8 degrees of a <17, 12, 24> direction" means and the diamond tip of Anderson is similar to the claimed diamond tip as provided in Fig. 2 of the disclosure, Anderson's diamond tip is considered to be mounted "within 8 degrees of a <17, 12, 24> direction". It is to be noted that crystallographic orientation of a diamond is inherent in every diamond.

Regarding Applicant's argument that using synthetic diamonds in cutting tools is not well known in the art, the Examiner respectfully disagrees. Using synthetic diamonds in cutting tools is well known in the art. Applicant is suggested to see the cited patent (6,158,952) in the IDS filed on 07/21/2004.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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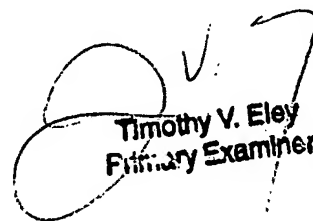
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phong H. Nguyen whose telephone number is 571-272-4510. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan Shoap can be reached on 571-272-4514. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PN: *pn*

February 15, 2006


Timothy V. Eley
Primary Examiner